CLAIMS:

What is claimed is:

1. A wireless communication system that provides wireless service to a mobile unit operating on one of a first carrier frequency and a second carrier frequency within a service area, the first and second carrier frequencies being in the same or different bands, the wireless communication system comprising:

at least one base station controller, the at least one base station controller producing a capacity request in response to a request made by the mobile unit on an originating carrier frequency of the first and second carrier frequencies; a first plurality of base stations coupled to the at least one base station controller, the first plurality of base stations operating on a first carrier frequency, at least one candidate base station of the first plurality of base stations receiving the capacity request, determining its net excess capacity based upon available forward link resources and available reverse link resources, and responding with a net excess capacity response; a second plurality of base stations coupled to the at least one base station controller, the second plurality of base stations operating on a second carrier frequency, at least one candidate base station of the second plurality of base stations receiving the capacity request, determining its net excess capacity based upon available forward link resources and available reverse link resources, and responding with a net excess capacity response; and the at least one base station controller operating to assign the mobile unit by selecting at least one servicing base station from the candidate base stations based upon the received net excess capacity responses by selecting the originating carrier frequency despite a higher priority for the other of the first and second carrier frequencies whenever adequate capacity is indicated in the excess capacity responses for the originating carrier frequency to at least one responding candidate base station of the first plurality of base stations or to at least one responding candidate base station of the second plurality of base stations based upon received net excess capacity responses.

2. The wireless communication system of Claim 1 wherein inadequate capacity is indicated in the excess capacity responses for the originating carrier frequency, and further including:

the at least one base station controller selecting the other of the carrier frequencies than the originating carrier frequency.

3. The wireless communication system of Claim 2, wherein at least one of the frequencies other than the originating carrier frequency has an assigned high priority, and further including:

the at least one base station controller waiting a specified time period for a capacity estimate response for carrier frequencies of the assigned high priority;

when the capacity estimate response from at least one of the high priority carrier frequencies is positive, the at least one base station controller selecting a servicing base station from the candidate base stations based upon the received positive excess capacity responses for the at least one of the high priority carrier frequencies; and

the at least one base station controller servicing the mobile unit with the selected servicing base station on the at least one of the high priority carrier frequencies.

4. A wireless communication system that provides wireless service to a mobile unit operating within a service area, the wireless communication system comprising:

a plurality of base station controllers in at least partially overlapping sectors, at least one of the base station controllers producing a capacity request in response to a request made by the mobile unit; the plurality of base station controllers each having a first plurality of base stations coupled to them, the first plurality of base stations operating on a first carrier frequency, at least one candidate base station of the first plurality of base stations receiving the capacity request, determining its net excess capacity based upon available forward link resources and available reverse link resources, and responding with a net excess capacity response; the plurality of base station controllers each further having a second plurality of base stations coupled to them, the second plurality of base

stations operating on a second carrier frequency, the first and second carrier frequencies being in the same or different bands, at least one candidate base station of the second plurality of base stations receiving the capacity request, determining its net excess capacity based upon available forward link resources and available reverse link resources, and responding with a net excess capacity response; and the base station controllers operating to assign the mobile unit to a responding candidate base station of the plurality of base station controllers based upon received net excess capacity responses.

5. The wireless communication system of Claim 4,wherein at least one of the frequencies other than the originating carrier frequency has an assigned high priority, and further including:

the at least one base station controller waiting a specified time period for a capacity estimate response for carrier frequencies of the assigned high priority;

when the capacity estimate response from at least one of the high priority carrier frequencies is positive, the at least one base station controller selecting a servicing base station from the candidate base stations based upon the received positive excess capacity responses for the high priority carrier frequency; and the at least one base station controller servicing the mobile unit with the selected servicing base station on the high priority carrier frequency.

6. A wireless communication system that provides wireless service to a mobile unit operating within a service area, the wireless communication system comprising:

at least one base station controller, the at least one base station controller producing a capacity request in response to a request made by the mobile unit; a first plurality of base stations coupled to the at least one base station controller, the first plurality of base stations operating on a first carrier frequency, at least one candidate base station of the first plurality of base stations receiving the capacity request, determining its net excess capacity based upon available forward link resources and available reverse link resources, and responding with a net excess capacity response; a second plurality of base stations coupled to the at least one base station controller, the second plurality of base stations operating on a second

carrier frequency, the first and second carrier frequencies being in the same or different bands, at least one candidate base station of the second plurality of base stations receiving the capacity request, determining its net excess capacity based upon available forward link resources and available reverse link resources, and responding with a net excess capacity response;

at least one of the first and second carrier frequencies having an assigned high priority; and the at least one base station controller waiting a specified time period for a capacity estimate response for carrier frequencies of the assigned high priority and, when the capacity estimate response from the high priority carrier frequency is positive, operating to assign the mobile unit to at least one responding candidate base station of the first plurality of base stations or to at least one responding candidate base station of the second plurality of base stations based upon received net excess capacity response from the high priority carrier frequency.

7. The wireless communication system of Claim 6, wherein only one of the carrier frequencies has an assigned high priority, and wherein the at least one base station controller waits the specified time period for a capacity estimate response of the carrier frequency of the assigned high priority.

8. The wireless communication system of Claim 7, wherein no capacity response is received for the carrier frequency of the assigned high priority and the at least one base station controllers selecting a servicing base station based upon received positive excess capacity response for the other carrier frequency.

9. The wireless communication system of Claim 6, wherein a plurality of the carrier frequencies have an assigned high priority, and wherein the at least one base station controller waits the specified time period for a capacity response of each carrier frequency of the assigned high priority.

10. The wireless communication system of Claim 9, wherein no capacity response is received for the plurality of carrier frequencies with the assigned high priority, and wherein the at least one base station controller selects a servicing

base station from the candidate base stations based upon the highest received positive excess capacity response.

11. A wireless communication system that provides wireless service to a mobile unit operating within a service area, the wireless communication system comprising:

a plurality of base station controllers in at least partially overlapping sectors, the base station controllers producing a capacity request in response to a request made by the mobile unit; at least one of the plurality of base station controllers having a first plurality of base stations coupled thereto, the first plurality of base stations operating on a first carrier frequency and a second carrier frequency, the first and second carrier frequencies being in the same or different bands, at least one candidate base station of the first plurality of base stations receiving the capacity request, determining its net excess capacity based upon available forward link resources and available reverse link resources, and responding with a net excess capacity response; at least one of the plurality of base station controllers having a second plurality of base stations coupled thereto, the second plurality of base stations operating only on one of the first and second carrier frequencies, at least one candidate base station of the second plurality of base stations receiving the capacity request, determining its net excess capacity based upon available forward link resources and available reverse link resources, and responding with a net excess capacity response; and the at least one base station controller operating if the excess capacity responses for the base stations in overlapping sectors indicate inadequate capacity on a first one of the first and second carrier frequencies to assign the mobile unit to at least one responding candidate base station of the first plurality of base stations on the other of the first and second carrier frequencies.

12. The wireless communication system of Claim 11, wherein at least one of the first and second frequencies has an assigned high priority, and further including:

the at least one base station controller waiting a specified time period for a capacity estimate response for carrier frequencies of the assigned high priority;

when the capacity estimate response from at least one of the carrier frequencies of the assigned high priority is positive, the at least one base station

controller selecting a servicing base station from the candidate base stations based upon the received positive excess capacity response for the high priority carrier frequency; and the at least one base station controller servicing the mobile unit with the selected servicing base station on the selected high priority carrier frequency.

13. In a wireless communication system including a first plurality of base stations that operate on a first carrier frequency and a second plurality of base stations that operate on a second carrier frequency, the first and second carrier frequencies being in the same or different bands, the first plurality of base stations and the second plurality of base stations providing overlaying service, a method of operation comprising:

receiving a request from a mobile unit on one of the first and second carrier frequencies as an originating carrier frequency; determining an operational position of the mobile unit based upon the location of a base station receiving the request; based upon the operational position of the mobile unit, requesting capacity information from candidate base stations of the first plurality of base stations and candidate base stations of the second plurality of base stations; receiving net excess capacity responses from the candidate base stations, each net excess capacity response based upon available forward link resources and available reverse link resources of a respective candidate base station; selecting at least one servicing base station from the candidate base stations based upon the received net excess capacity responses by selecting the originating carrier frequency despite a higher priority for the other of the first and second carrier frequencies whenever adequate capacity is indicated in the excess capacity responses for the originating carrier frequency; and servicing the mobile unit with the selected at least one servicing base station on the originating carrier frequency.

14. The method of Claim 13, wherein inadequate capacity is indicated in the excess capacity responses for the originating carrier frequency during the step of receiving net excess capacity responses, and wherein the step of selecting comprises the step of:

selecting the other of the carrier frequencies than the originating carrier frequency.

15. The method of Claim 14, wherein at least one of the frequencies other than the originating carrier frequency has an assigned high priority, and further including the steps of:

waiting a specified time period for a capacity estimate response for carrier frequencies of the assigned high priority;

when the capacity estimate response from at least one of the high priority carrier frequencies is positive, selecting a servicing base station from the candidate base stations based upon the received positive excess capacity responses for the at least one of the high priority carrier frequencies; and servicing the mobile unit with the selected servicing base station on the at least one of the high priority carrier frequencies.

16. In a wireless communication system including a plurality of base station controllers in at least partially overlapping sectors, at least one of the plurality of base station controllers having a first plurality of base stations that operate on a first carrier frequency and a second plurality of base stations that operate on a second carrier frequency, the first and second carrier frequencies being in the same or different bands, the first plurality of base stations and the second plurality of base stations providing overlaying service, a method of operation comprising:

receiving a request from a mobile unit; determining an operational position of the mobile unit based upon the location of a base station receiving the request; based upon the operational position of the mobile unit, requesting capacity information from candidate base stations of the first plurality of base stations and candidate base stations of the second plurality of base stations for base station controllers in sectors overlapping the location of the base station receiving the request; receiving net excess capacity responses from the candidate base stations, each net excess capacity response based upon available forward link resources and available reverse link resources of a respective candidate base station;

when the candidate base station is associated with a cell in which the mobile station accessed the wireless communication system, retaining that candidate base station as one of the candidate base stations;

selecting at least one servicing base station from the retained candidate base stations of the base station controllers in overlapping sectors based upon the received net excess capacity responses, the at least one servicing base station corresponding to either the first carrier frequency or the second carrier frequency; and servicing the mobile unit with the selected base station.

17. The method of Claim 16, wherein at least one of the carrier frequencies has an assigned high priority, and further including the steps of:

waiting a specified time period for a capacity estimate response for carrier frequencies of the assigned high priority;

when the capacity estimate response from at least one of the high priority carrier frequencies is positive, selecting a servicing base station from the candidate base stations based upon the received positive excess capacity responses for the high priority carrier frequency; and servicing the mobile unit with the selected servicing base station on the high priority carrier frequency.

18. In a wireless communication system including a first plurality of base stations that operate on a first carrier frequency and a second plurality of base stations that operate on a second carrier frequency, the first and second carrier frequencies being in the same or different bands, the first plurality of base stations and the second plurality of base stations providing overlaying service, at least one of the frequencies for the base stations having an assigned high priority, a method of operation comprising:

receiving a request from a mobile unit; determining an operational position of the mobile unit based upon the location of a base station receiving the request; based upon the operational position of the mobile unit, requesting capacity information from candidate base stations of the first plurality of base stations and candidate base stations of the second plurality of base stations;

waiting a specified time period for a capacity estimate response for carrier frequencies of the assigned high priority; receiving net excess capacity responses

from the candidate base stations, each net excess capacity response based upon available forward link resources and available reverse link resources of a respective candidate base station;

when the capacity estimate response from the high priority carrier frequency is positive, selecting a servicing base station from the candidate base stations based upon the received positive excess capacity responses for the high priority carrier frequency; and servicing the mobile unit with the selected servicing base station on the high priority carrier frequency.

19. The method of Claim 18, wherein only one of the carrier frequencies has an assigned high priority, and wherein the step of waiting comprises:

waiting the specified time period for a capacity estimate response for the carrier frequency of the assigned high priority.

20. The method of Claim 19, wherein no capacity response is received from the carrier frequency with the high priority, and wherein the step of selecting comprises the step of:

selecting a servicing base station from the candidate base stations based upon the received positive excess capacity responses for the next highest priority carrier frequency.

21. The method of Claim 18, wherein a plurality of the carrier frequencies have an assigned high priority, and wherein the step of waiting comprises:

waiting the specified time period for a capacity estimate response for each carrier frequency of the assigned high priority.

22. The method of Claim 21, wherein no capacity response is received from the plurality of carrier frequencies with the high priority, and wherein the step of selecting comprises the step of:

selecting a servicing base station from the candidate base stations based upon the highest received positive excess capacity response.

23. In a wireless communication system including a plurality of base station controllers in at least partially overlapping sectors, at least one of the plurality of base station controllers having a first plurality of base stations that operate on a first carrier frequency and a second plurality of base stations that operate on a second carrier frequency, the first and second carrier frequencies being in the same or different bands, the first plurality of base stations and the second plurality of base stations providing overlaying service, and at least one of the plurality of base station controllers having a base station that operates only on one of the first and second carrier frequencies, a method of operation comprising:

receiving a request from a mobile unit; determining an operational position of the mobile unit based upon the location of a base station receiving the request; based upon the operational position of the mobile unit, requesting capacity information from candidate base stations of the plurality of base station controllers in sectors overlapping the location of the base station receiving the request; receiving net excess capacity responses from the candidate base stations, each net excess capacity response based upon available forward link resources and available reverse link resources of a respective candidate base station; if the excess capacity responses for the base stations in overlapping sectors indicate inadequate capacity on a first one of the first and second carrier frequencies, selecting at least one servicing base station on the other of the first and second carrier frequencies from the candidate base stations of the base station controllers in overlapping sectors based upon the received net excess capacity responses; and servicing the mobile unit with the selected servicing base station.

24. The method of Claim 23, wherein at least one of the first and second frequencies has an assigned high priority, and further including the steps of:

waiting a specified time period for a capacity estimate response for carrier frequencies of the assigned high priority;

when the capacity estimate response from at least one of the carrier frequencies of the assigned high priority is positive, selecting a servicing base station from the candidate base stations based upon the received positive excess capacity response for the high priority carrier frequency; and servicing the mobile

unit with the selected servicing base station on the selected high priority carrier frequency.

25. A computer readable medium that is readable by at least one component of a wireless communication system that includes a first plurality of base stations that operate on a first carrier frequency and a second plurality of base stations that operate on a second carrier frequency and that supports a mobile unit, the first and second carrier frequencies being in the same or different bands, the first plurality of base stations and the second plurality of base stations providing overlaying service, the computer readable medium comprising:

a set of instructions that, when executed by the wireless communication system, cause the wireless communication system to perform the following operations: receive a request from a mobile unit on one of the first and second carrier frequencies as an originating carrier frequency; determine an operational position of the mobile unit based upon the location of a base station receiving the request; based upon the operational position of the mobile unit, request capacity information from candidate base stations of the first plurality of base stations and candidate base stations of the second plurality of base stations; receive net excess capacity responses from the candidate base stations, each net excess capacity response based upon available forward link resources and available reverse link resources for a respective candidate base station; select at least one servicing base station at the originating carrier frequency from the candidate base stations based upon the received net excess capacity responses, despite a higher priority for the other of the first and second carrier frequencies, whenever adequate capacity is indicated in the excess capacity responses for the originating carrier frequency; and service the mobile unit with the selected servicing base station on the originating carrier frequency.

26. The computer readable medium of Claim 25, wherein the set of instructions includes instructions that cause the wireless communication system to:

select the other of the carrier frequencies than the originating carrier frequency when inadequate capacity is indicated in the responses for the originating carrier frequency.

27. The computer readable medium of Claim 26, wherein at least one of the frequencies other than the originating carrier frequency has an assigned high priority, and wherein the set of instructions includes instructions that cause the wireless communication system to:

wait a specified time period for a capacity estimate response for carrier frequencies of the assigned high priority;

when the capacity estimate response from at least one of the high priority carrier frequencies is positive, select a servicing base station from the candidate base stations based upon the received positive excess capacity responses for the at least one of the high priority carrier frequencies; and service the mobile unit with the selected servicing base station on the at least one of the high priority carrier frequencies.

28. A computer readable medium that is readable by at least one component of a wireless communication system that includes a plurality of base station controllers in at least partially overlapping sectors, at least one of the plurality of base station controllers having a first plurality of base stations that operate on a first carrier frequency and a second plurality of base stations that operate on a second carrier frequency and that supports a mobile unit, the first and second carrier frequencies being in the same or different bands, the first plurality of base stations and the second plurality of base stations providing overlaying service, the computer readable medium comprising:

a set of instructions that, when executed by the wireless communication system, cause the wireless communication system to perform the following operations: receive a request from a mobile unit; determine an operational position of the mobile unit based upon the location of a base station receiving the request; based upon the operational position of the mobile unit, request capacity information from candidate base stations of the plurality of base station controllers and candidate base stations of the second plurality of base stations; receive net

excess capacity responses from the candidate base stations, each net excess capacity response based upon available forward link resources and available reverse link resources for a respective candidate base station; select at least one servicing base station from the candidate base stations of the base station controllers in overlapping sectors based upon the received net excess capacity responses, the at least one servicing base station corresponding to either the first carrier frequency or the second carrier frequency; and service the mobile unit with the selected servicing base station.

29. The computer readable medium of Claim 28, wherein at least one of the carrier frequencies has an assigned high priority, and wherein the set of instructions includes instructions that cause the wireless communication system to:

wait a specified time period for a capacity estimate response for carrier frequencies of the assigned high priority;

when the capacity estimate response from at least one of the high priority carrier frequencies is positive, select a servicing base station from the candidate base stations based upon the received positive excess capacity responses for the high priority carrier frequency; and service the mobile unit with the selected servicing base station on the high priority carrier frequency.

30. A computer readable medium that is readable by at least one component of a wireless communication system that includes a first plurality of base stations that operate on a first carrier frequency and a second plurality of base stations that operate on a second carrier frequency and that supports a mobile unit, the first and second carrier frequencies being in the same or different bands, the first plurality of base stations and the second plurality of base stations providing overlaying service, at least one of the base stations having an assigned high priority, the computer readable medium comprising:

a set of instructions that, when executed by the wireless communication system, cause the wireless communication system to perform the following operations: receive a request from a mobile unit; determine an operational position of the mobile unit based upon the location of a base station receiving the request; based upon the operational position of the mobile unit, request capacity information from candidate base stations of the first plurality of base stations and candidate base stations of the second plurality of base stations;

wait a specified time period for a capacity estimate response for carrier frequencies of the assigned high priority;

receive net excess capacity responses from the candidate base stations, each net excess capacity response based upon available forward link resources and available reverse link resources for a respective candidate base station; if the capacity estimate response from the highest priority carrier frequency is positive,

select a servicing base station from the candidate base stations based upon the positive net excess capacity responses for the highest priority carrier frequency; and service the mobile unit with the selected servicing base station on the highest priority carrier frequency.

31. The computer readable medium of Claim 30, wherein the set of instructions includes instructions that cause the wireless communication system to:

wait the specified time period for a capacity estimate response for the carrier frequency of the assigned high priority.

32. The computer readable medium of Claim 31, wherein the set of instructions includes instructions that cause the wireless communication system to:

select a servicing base station from the candidate base stations based upon the received positive excess capacity responses for the next highest priority carrier frequency.

33. The computer readable medium of Claim 30, wherein the set of instructions includes instructions that cause the wireless communication system to:

wait the specified time period for a capacity estimate response for each carrier frequency of the assigned high priority.

34. The computer readable medium of Claim 33, wherein the set of instructions includes instructions that cause the wireless communication system to:

select a servicing base station from the candidate base stations based upon the highest received positive excess capacity response.

35. A computer readable medium that is readable by at least one component of a wireless communication system that includes a plurality of base station controllers in at least partially overlapping sectors, at least one of the plurality of

base station controllers having a first plurality of base stations that operate on a first carrier frequency and a second plurality of base stations that operate on a second carrier frequency and that supports a mobile unit, the first and second carrier frequencies being in the same or different bands, the first plurality of base stations and the second plurality of base stations providing overlaying service, and at least one of the plurality of base station controllers having a base station that operates only on one of the first and second carrier frequencies, the computer readable medium comprising:

a set of instructions that, when executed by the wireless communication system, cause the wireless communication system to perform the following operations: receive a request from a mobile unit; determine an operational position of the mobile unit based upon the location of a base station receiving the request; based upon the operational position of the mobile unit, request capacity information from candidate base stations of the plurality of base station controllers; receive net excess capacity responses from the candidate base stations, each net excess capacity response based upon available forward link resources and available reverse link resources for a respective candidate base station; if the excess capacity responses for the base stations in overlapping sectors indicate inadequate capacity on a first one of the first and second carrier frequencies, select at least one servicing base station of the base station controllers in overlapping sectors on the other of the first and second carrier frequencies from the candidate base stations based upon the received net excess capacity responses, the at least one servicing base station corresponding to either the first carrier frequency or the second carrier frequency; and service the mobile unit with the at selected servicing base station.

36. The computer readable medium of Claim 35, wherein at least one of the carrier frequencies has an assigned high priority, and wherein the set of instructions includes instructions that cause the wireless communication system to:

wait a specified time period for a capacity estimate response for carrier frequencies of the assigned high priority;

when the capacity estimate response from at least one of the carrier frequencies of the assigned high priority is positive, select a servicing base station from the candidate base stations based upon the received positive excess capacity response for the high priority carrier frequency; and service the mobile unit with the selected servicing base station on the selected high priority carrier frequency.